SEQUENCE LISTING

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Hill, Caroline Susan
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<120> POLYPEPTIDES

<130> 12795-009US1

<140> US 10/069,410
<141> 2002-02-25

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<151> 2000-08-25

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<400> 1
Pro Pro Asn Lys
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Pro Pro Thr Lys
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Pro Pro Gln Lys
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<220>
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<400> 4
Pro Pro Asn Lys Thr Ile Thr Pro Asp Met Asn Val Arg Ile Pro Pro
1 5 10 15
Ile

<210> 5
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<220>
<223> Exemplary motif

<400> 5
Ala Ala Asn Lys
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<210> 6
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<220>
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Gln Thr Asn Lys
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<210> 7
<211> 17
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<220>
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Pro Pro Asn Lys Thr Ile Thr Pro Asp Met Asn Thr Ile Ile Pro Gln
1 5 10 15
Ile

<210> 8

<211> 16
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<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 8
Pro Pro Asn Lys Ser Val Phe Asp Val Leu Thr Ser His Pro Gly Asp
 1   5   10   15

<210> 9
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 9
Pro Pro Asn Lys Ser Ile Tyr Asp Val Trp Val Ser His Pro Arg Asp
 1   5   10   15

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<400> 10
Pro Pro Ser Lys
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<210> 11
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<400> 11
Pro Pro Asn Lys Thr Val Phe Asp Ile Pro Val Tyr Thr Gly His Pro
 1   5   10   15
Gly

<210> 12
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 12
Pro Pro Asn Lys Thr Ile Thr Pro Asp Met Asn Thr Ile Ile Pro Gln
1 5 10 15
Ile

<210> 13
<211> 17
<212> PRT
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<220>
<223> Synthetically generated peptide

<400> 13
Pro Pro Asn Lys Thr Ile Gly Pro Glu Met Lys Val Val Ile Pro Pro
1 5 10 15
Leu

<210> 14
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 14
Pro Pro Asn Lys Ser Ser Lys Arg Gly Asn Thr Pro Pro Trp
1 5 10

<210> 15
<211> 25
<212> PRT
<213> Xenopus laevis

<400> 15
Leu Leu Met Asp Phe Asn Asn Phe Pro Pro Asn Lys Thr Ile Thr Pro
1 5 10 15
Asp Met Asn Val Arg Ile Pro Pro Ile
20 25

<210> 16
<211> 25
<212> PRT
<213> Xenopus laevis

<400> 16
His Ser Asn Leu Met Met Asp Phe Pro Pro Asn Lys Thr Ile Thr Pro
1 5 10 15
Asp Met Asn Thr Ile Ile Pro Gln Ile
20 25

<210> 17
<211> 24
<212> PRT

<213> Xenopus laevis

<400> 17
Leu Asp Asn Met Leu Arg Ala Met Pro Pro Asn Lys Ser Val Phe Asp
1 5 10 15
Val Leu Thr Ser His Pro Gly Asp
20

<210> 18
<211> 24
<212> PRT
<213> Mus musculus

<400> 18
Leu Asp Ser Leu Phe Gln Gly Val Pro Pro Asn Lys Ser Ile Tyr Asp
1 5 10 15
Val Trp Val Ser His Pro Arg Asp
20

<210> 19
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 19
Leu Asp Ala Leu Phe Gln Gly Val Pro Pro Asn Lys Ser Ile Tyr Asp
1 5 10 15
Val Trp Val Ser His Pro Arg Asp
20

<210> 20
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
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<400> 20
Leu Lys Asn Ala Pro Ser Asp Phe Pro Pro Asn Lys Thr Val Phe Asp
1 5 10 15
Ile Pro Val Tyr Thr Gly His Pro Gly
20 25

<210> 21
<211> 25
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<220>
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<400> 21
His Ser Asn Leu Val Met Glu Phe Pro Pro Asn Lys Thr Ile Thr Pro

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 1               5                   10                  15
Asp Met Asn Thr Ile Ile Pro Gln Ile
            20                  25

<210> 22
<211> 24
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<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 22
Leu Val Glu Tyr Asp Asn Phe Pro Pro Asn Lys Thr Ile Gly Pro Glu
 1               5                   10                  15
Met Lys Val Val Ile Pro Pro Leu
            20

<210> 23
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 23
Ile Thr Ser Asp Ala Tyr Ser Asp Ser Cys Pro Pro Pro Asn Lys Ser
 1               5                   10                  15
Ser Lys Arg Gly Asn Thr Pro Pro Trp
            20                  25

<210> 24
<211> 48
<212> PRT
<213> Artificial Sequence

<220>
<223> Exemplary motif

<221> VARIANT
<222> 1, 34
<223> Xaa = Asp or Glu

<221> VARIANT
<222> 2
<223> Xaa = hydrophobic residue

<221> VARIANT
<222> 3-20,
<223> Xaa = any amino acid
      0-15 or 18 Xaa may be present

<221> VARIANT
<222> 27-33,
<223> Xaa = any amino acid
      0-7 Xaa may be present
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<221> VARIANT
<222> 36-47,
<223> Xaa = any amino acid
0-8 or 12 Xaa may be present

<221> VARIANT
<222> 23
<223> Xaa = Asn or Thr

<221> VARIANT
<222> 25
<223> Xaa = Thr or Ser

<221> VARIANT
<222> (26)...(0)
<223> Xaa = Ile or Val

<221> VARIANT
<222> (35)...(0)
<223> Xaa = Met, Val or Ile

<400> 24
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1 5 10 15
Xaa Xaa Xaa Xaa Pro Pro Xaa Lys Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20 25 30
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Pro
35 40 45

<210> 25
<211> 41
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 25
Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
1 5 10 15
Leu Leu Met Asp Phe Asn Asn Phe Pro Pro Asn Lys Thr Ile Thr Pro
20 25 30
Asp Met Asn Val Arg Ile Pro Pro Ile
35 40

<210> 26
<211> 41
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 26
Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
1 5 10 15

Leu Leu Met Asp Phe Asn Asn Phe Ala Ala Asn Lys Thr Ile Thr Pro
20 25 30
Asp Met Asn Val Arg Ile Pro Pro Ile
35 40

<210> 27
<211> 46
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 27
Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
1 5 10 15
Pro Glu Val Lys Asn Ala Pro Lys Asp Phe Pro Pro Asn Lys Thr Val
20 25 30
Phe Asp Ile Pro Val Tyr Thr Gly His Pro Gly Phe Leu Ala
35 40 45

<210> 28
<211> 46
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 28
Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
1 5 10 15
Pro Glu Val Lys Asn Ala Pro Lys Asp Phe Ala Ala Ala Lys Thr Val
20 25 30
Phe Asp Ile Pro Val Tyr Thr Gly His Pro Gly Phe Leu Ala
35 40 45

<210> 29
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 29
ctagccatta atcagattaa cggtgagcaa ttaga 35

<210> 30
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 30

ccgactagta tctgctgccc taaaatgtgt attccatgga aatg 44

<210> 31
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 31
ccggctagct agggagagaa gggcagacat ttccatggaa tac 43

<210> 32
<211> 35
<212> DNA
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<220>
<223> Primer

<400> 32
ctagccagtc agcagctgac cggtgagcaa ttaga 35

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<220>
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<400> 33
ctagccagtc atcagagtca cggtgagcaa gtcga 35

<210> 34
<211> 35
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<213> Artificial Sequence

<220>
<223> Primer

<400> 34
ctagccatta atcagattaa cttgtagcaa gtaga 35

<210> 35
<211> 29
<212> DNA
<213> Xenopus laevis

<400> 35
cattaatcag attaacggtg agcaattag 29

<210> 36
<211> 45
<212> PRT

<213> Xenopus laevis

<400> 36
Lys His Ser Gln Met Pro Phe His Pro Ser Leu Leu Met Asp Phe Asn
 1   5   10   15
Asn Phe Pro Pro Asn Lys Thr Ile Thr Pro Asp Met Asn Val Arg Ile
            20   25   30
Pro Pro Ile Pro Val Ser Ala Pro Ser Asn Asn His Ser
        35   40   45

<210> 37
<211> 45
<212> PRT
<213> Danio rerio

<400> 37
Ala Asn His Ala Lys Ser Thr Met Lys Gln Phe Leu Val Glu Tyr Asp
 1   5   10   15
Asn Phe Pro Pro Asn Lys Thr Ile Gly Pro Glu Met Lys Val Val Ile
            20   25   30
Pro Pro Leu Pro Ser Gln Ser Asn Phe Met Met Ser Ser
        35   40   45

<210> 38
<211> 42
<212> PRT
<213> Xenopus laevis

<400> 38
Arg His Asn Gln Val Ser Met His Ser Asn Leu Met Met Asp Phe Pro
 1   5   10   15
Pro Asn Lys Thr Ile Thr Pro Asp Met Asn Thr Ile Ile Pro Gln Ile
            20   25   30
Thr Asp Ala Thr Gly Trp Ser Ser Gln Glu
        35   40

<210> 39
<211> 42
<212> PRT
<213> Xenopus laevis

<400> 39
Arg Gln Asn Gln Val Thr Met His Ser Asn Leu Val Met Glu Phe Pro
 1   5   10   15
Pro Asn Lys Thr Ile Thr Pro Asp Met Asn Thr Ile Ile Pro Gln Ile
            20   25   30
Pro Gly Ala Thr Gly Trp Lys Asn Gln Glu
        35   40

<210> 40
<211> 45
<212> PRT
<213> Xenopus laevis

<400> 40
Asp Ser Pro Arg Gly Pro Gln Ser Pro Leu Asp Leu Asp Asn Met Leu
 1   5   10   15

Arg Ala Met Pro Pro Asn Lys Ser Val Phe Asp Val Leu Thr Ser His
20 25 30
Pro Gly Asp Leu Val His Pro Ser Phe Leu Ser Gln Cys
35 40 45

<210> 41
<211> 45
<212> PRT
<213> Homo sapiens

<400> 41
Glu Thr Arg Gly Pro Pro Gly Leu Leu Cys Asp Leu Asp Ala Leu Phe
1 5 10 15
Gln Gly Val Pro Pro Asn Lys Ser Ile Tyr Asp Val Trp Val Ser His
20 25 30
Pro Arg Asp Leu Ala Ala Pro Gly Pro Gly Trp Leu Leu
35 40 45

<210> 42
<211> 45
<212> PRT
<213> Mus Musculus

<400> 42
Glu Ser Gln Gly Ser Gln Asp Leu Leu Cys Asp Leu Asp Ser Leu Phe
1 5 10 15
Gln Gly Val Pro Pro Asn Lys Ser Ile Tyr Asp Val Trp Val Ser His
20 25 30
Pro Arg Asp Leu Ala Ala Pro Ala Pro Gly Trp Leu Leu
35 40 45

<210> 43
<211> 47
<212> PRT
<213> Xenopus laevis

<400> 43
Pro Gln Ile Pro Leu Thr Pro Lys Pro Pro Glu Leu Lys Asn Ala Pro
1 5 10 15
Ser Asp Phe Pro Pro Asn Lys Thr Val Phe Asp Ile Pro Val Tyr Thr
20 25 30
Gly His Pro Gly Phe Leu Ala Ser Gln Ser Leu Phe Ser Pro His
35 40 45

<210> 44
<211> 66
<212> PRT
<213> Xenopus laevis

<400> 44
Ser Gln Met Pro Phe His Pro Ser Leu Leu Met Asp Phe Asn Asn Phe
1 5 10 15
Pro Pro Asn Lys Thr Ile Thr Pro Asp Met Asn Val Arg Ile Pro Pro
20 25 30
Ile Pro Val Ser Ala Pro Ser Asn Asn His Ser Arg Met Asn Val Phe
35 40 45

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Asn Thr Lys Glu Ala Gly Pro Leu Val Ser Leu Pro Glu Asp Val Tyr
    50                  55                  60
Glu Glu
65

<210> 45
<211> 66
<212> PRT
<213> Danio rerio


<400> 45
Ala Lys Ser Thr Met Lys Gln Phe Leu Val Glu Tyr Asp Asn Phe Pro
 1               5                  10                  15
Pro Asn Lys Thr Ile Gly Pro Glu Met Lys Val Val Ile Pro Pro Leu
            20                  25                  30
Pro Ser Gln Ser Asn Phe Met Met Ser Ser Ser Ser Pro Lys His Ile
        35                  40                  45
Ala Cys Ser Val Gln Asn Met Ser Val Gln Thr Gln Pro Glu Leu Phe
    50                  55                  60
Ala Thr
65

<210> 46
<211> 61
<212> PRT
<213> Xenopus laevis

<400> 46
Asn Gln Val Ser Met His Ser Asn Leu Met Met Asp Phe Pro Pro Asn
 1               5                  10                  15
Lys Thr Ile Thr Pro Asp Met Asn Thr Ile Ile Pro Gln Ile Thr Asp
            20                  25                  30
Ala Thr Gly Trp Ser Ser Gln Glu Gly Thr Asp Ala Tyr Ser Thr Gln
        35                  40                  45
Gly Ala Leu Pro Arg Ala Gln Cys Ser Pro Tyr Gly Gln
    50                  55                  60

<210> 47
<211> 61
<212> PRT
<213> Xenopus laevis

<400> 47
Asn Gln Val Thr Met His Ser Asn Leu Val Met Glu Phe Pro Pro Asn
 1               5                  10                  15
Lys Thr Ile Thr Pro Asp Met Asn Thr Ile Ile Pro Gln Ile Pro Gly
            20                  25                  30
Ala Thr Gly Trp Lys Asn Gln Glu Asp Ile Asn Thr Tyr Ser Thr Gln
        35                  40                  45
Gly Ala Leu Ser Arg Ala Gly Cys Ser Ser Tyr Gly Leu
    50                  55                  60

<210> 48
<211> 63
<212> PRT
<213> Xenopus laevis
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<400> 48
Asn Gln Val Ser Met His Ser Asn Leu Met Met Asp Ile Ser Asn Phe
 1   5   10   15
Pro Pro Thr Lys Thr Ile Thr Ala Asn Met Asn Thr Ile Ile Pro Gln
            20   25   30
Met Pro Gly Ala Ser Cys Trp Ser Ser His Glu Ile Asn Ala Tyr Ser
        35   40   45
Thr Gln Gly Ala Val Pro Met Ala Gly Cys Ser Pro Tyr Gly His
    50   55   60

<210> 49
<211> 64
<212> PRT
<213> Xenopus laevis

<400> 49
Asn Gln Val Ser Met His Ser Asn Ile Met Met Asp Phe Ser Asn Phe
 1   5   10   15
Gln Pro Lys Lys Thr Val Thr Pro Asp Met Asn Thr Ile Ile Pro Gln
            20   25   30
Ile Pro Asp Ala Thr Gly Trp Ser Asn Gln Glu Gly Thr Asp Ala Tyr
        35   40   45
Ser Thr Gln Glu Ala Leu Pro Arg Ala Gln Cys Ser Pro Tyr Gly His
    50   55   60

<210> 50
<211> 60
<212> PRT
<213> Xenopus laevis

<400> 50
Gln Gln Met Pro Val Gln Pro Met Leu Met Asn Ser Phe Gln Thr Asn
 1   5   10   15
Lys Asn Ile Lys Pro Glu Val Tyr Thr Thr Ser Pro Gln Ile Pro Val
            20   25   30
Ser Thr Thr Ser Ser Gln Val Ser Leu Phe Ala Asn Gln Glu Pro Cys
        35   40   45
His Met Ser Thr Thr Gln Gly Gly Thr Tyr Gly Gln
    50   55   60

<210> 51
<211> 63
<212> PRT
<213> Xenopus laevis

<400> 51
Gln Gln Met Pro Ala Gln Pro Met Phe Met Asn Ser Phe Gln Thr Asn
 1   5   10   15
Lys Ile Ile Lys Ser Lys Met Asp Thr Thr Ser Pro Pro Ile Pro Val
            20   25   30
Ser Thr Thr Ser Ser His His Ser Gln Met Ser Leu Phe Ala Gly Gln
        35   40   45
Asp Pro Cys His Met Ser Thr Ala Pro Gly Gly Thr Tyr Gly Gln
    50   55   60

<210> 52

<211> 344
<212> PRT
<213> Xenopus laevis

<400> 52
Met Ser Phe Gly Leu His Pro Trp Asp Val Ala Phe Arg Pro Ser Pro
1 5 10 15
Pro His Asn Leu Glu Lys Lys Val Val Pro Pro Gly Ala Asp Arg Glu
20 25 30
Lys Ser Leu Pro Ser Pro Lys Glu Asp Ser Asp Gly Ala Arg Glu Pro
35 40 45
Asp Ser Thr Val Asp Leu Arg Lys Lys Asn Lys Lys Lys Lys Asn Tyr
50 55 60
Gln Arg Tyr Ala Lys Pro Pro Tyr Ser Tyr Leu Ala Met Ile Ser Leu
65 70 75 80
Val Ile Gln Asn Ser Pro Glu Lys Arg Leu Lys Leu Ser Gln Ile Leu
85 90 95
Gln Asp Ile Ser Ser Leu Phe Pro Phe Phe Lys Gly Asn Tyr Gln Gly
100 105 110
Trp Lys Asp Ser Ile Arg His Asn Leu Ser Ser Asn Asp Cys Phe Arg
115 120 125
Lys Val Leu Lys Asp Pro Leu Lys Pro Gln Ala Lys Gly Asn Tyr Trp
130 135 140
Thr Val Asp Val Thr Arg Ile Pro Pro Asp Ala Leu Lys Leu Gln Asn
145 150 155 160
Thr Ala Val Thr Arg Gln Asp Leu Phe Pro Leu Asp Leu Ala Pro Tyr
165 170 175
Ile Leu His Gly Gln Pro Tyr Arg Ser Leu Glu Arg Leu Ser Ala Asn
180 185 190
His Thr Arg Gly Arg Thr Thr Pro Arg Met Glu Pro Glu Val Gln Ile
195 200 205
Pro Val Ser Asp Pro Ala Val Ser Phe Pro Met Ile Leu Trp Asn Leu
210 215 220
Pro Thr Ser Tyr Ser Lys Cys Val Ala Pro Asn Val Val Ala Pro Pro
225 230 235 240
Ser Ile His Pro Leu Leu Leu Tyr Ser Asn Phe Pro Ser Ile Ser Ile
245 250 255
Tyr Asn Tyr Leu Pro Pro Pro Tyr Gly Ser Pro Val Tyr Ser Asp Arg
260 265 270
Arg Asp Leu Leu Ala Ser Gly Leu His Pro Gln Ile Pro Leu Thr Pro
275 280 285
Lys Pro Pro Glu Leu Lys Asn Ala Pro Ser Asp Phe Pro Pro Asn Lys
290 295 300
Thr Val Phe Asp Ile Pro Val Tyr Thr Gly His Pro Gly Phe Leu Ala
305 310 315 320
Ser Gln Ser Leu Phe Ser Pro His Leu Pro Thr Ala Thr Pro Pro Leu
325 330 335
Val Gly Tyr Arg Pro Ser Gly Leu
340

<210> 53
<211> 1035
<212> DNA
<213> Xenopus laevis

<400> 53
atgtcttttg ggcttcaccc atgggatgtg gccttcagac cttcaccccc tcacaacctg 60

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gagaagaaag tcgtcccccc aggggccgac agagagaagt cgcttccttc ccccaaggag     120
gacagtgatg gggcccggga gcccgactcc actgtggatt tgaggaagaa gaacaagaag     180
aagaagaact accagagata cgccaagccc ccctattcct acctggccat gatctccctg     240
gtcatccaga actccccga gaagaggctc aaactctccc agatcctgca ggacatcagc     300
tctctgtttc cattcttcaa gggcaactac cagggctgga aggattccat tcggcataat     360
ttgtcttcca acgactgttt cagaaaggtt ctgaaggatc cgctcaagcc acaggccaag     420
ggcaattact ggacagtaga cgtgacccgg atccccccag acgctttgaa gctccagaac     480
acggcggtga cccggcagga cctgttcccc ctggacctgg ccccctacat cctacatggg     540
cagccgtaca ggagtctgga gaggctctcg gccaatcaca cgaggggcg cacgacccc       600
aggatggagc ctgaagttca gattccagtg tcagacccag ctgtcagttt ccccatgatc     660
ctatggaatc tgccgacatc ctacagcaaa tgtgtggccc ccaatgtagt ggcccctccc     720
agcattcacc ccctcttgtt gtactccaac ttcccttcca tttccattta tacctacctg     780
cccccgccct atggcagccc cgtgtactca gacagacgag atcttcttgc ctccggcctg     840
caccccaaa tccctctcac ccccaaaccc ccagagctga agaacgcccc cagcgacttc      900
ccccccaaca agacagtgtt tgacatcccc gtctatactg gccacccggg gttccttgct     960
agccaaagct tgttcagccc acacttgccc acggctacac ccccctcgt gggctaccgg     1020
ccatctgggc tatga                                                     1035

<210> 54
<211> 1278
<212> DNA
<213> Xenopus laevis

<220>
<221> CDS
<222> (1)...(1575)

<400> 54
atg tcc tcg ata ctt ccc ttc act ccc ccc att gtc aag agg ctg ctg       48
Met Ser Ser Ile Leu Pro Phe Thr Pro Pro Ile Val Lys Arg Leu Leu
 1               5                  10                  15

gga tgg aag aag gga gag cag aac gga caa gag gag aaa tgg tgc gag       96
Gly Trp Lys Lys Gly Glu Gln Asn Gly Gln Glu Glu Lys Trp Cys Glu
            20                  25                  30

aag gca gtg aaa agt ctg gtg aag aag ctg aag aag agc ggc cag ctg      144
Lys Ala Val Lys Ser Leu Val Lys Lys Leu Lys Lys Ser Gly Gln Leu
        35                  40                  45

gac gag ctg gag aag gca ctg acc acc cag agc atc agc acc aag tgc      192
Asp Glu Leu Glu Lys Ala Leu Thr Thr Gln Ser Ile Ser Thr Lys Cys
    50                  55                  60

atc acc atc ccc agg tct ctg gat ggg aga ctc cag gtg tcc cat cgt      240
Ile Thr Ile Pro Arg Ser Leu Asp Gly Arg Leu Gln Val Ser His Arg
65                  70                  75                  80

aag ggg ttg cct cat gtc ata tac tgc cgc ctc tgg agg tgg cca gat      288
Lys Gly Leu Pro His Val Ile Tyr Cys Arg Leu Trp Arg Trp Pro Asp
                85                  90                  95

ctg cac agt cac cac gag ctt cga gcc atg gag gtg tgt gaa tat gcc      336
Leu His Ser His His Glu Leu Arg Ala Met Glu Val Cys Glu Tyr Ala
            100                 105                 110

ttc agc atg aag aag gac gaa gtg tgt gtg aat cct tat cac tac cag      384
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Phe Ser Met Lys Lys Asp Glu Val Cys Val Asn Pro Tyr His Tyr Gln
        115                 120                 125

aga gtg gag act cca gtt cta cct cct gtg ctg gtt cca cga aac acc      432
Arg Val Glu Thr Pro Val Leu Pro Pro Val Leu Val Pro Arg Asn Thr
    130                 135                 140

gaa att ccg gca gaa ttc cct tca ctt gat gat tac agc cat tcc att      480
Glu Ile Pro Ala Glu Phe Pro Ser Leu Asp Asp Tyr Ser His Ser Ile
145                 150                 155                 160

ccg gaa aat acc aat ttc cca gca ggc atc gag cca cag ata aac tac      528
Pro Glu Asn Thr Asn Phe Pro Ala Gly Ile Glu Pro Gln Ile Asn Tyr
                165                 170                 175

att cca gaa acg cct cct ccc ggt tac ttg agc gaa gat ggg gaa aca      576
Ile Pro Glu Thr Pro Pro Pro Gly Tyr Leu Ser Glu Asp Gly Glu Thr
            180                 185                 190

agc gac caa atg aat cac agt ata gat aca ggg tct cca aat ctg tca      624
Ser Asp Gln Met Asn His Ser Ile Asp Thr Gly Ser Pro Asn Leu Ser
        195                 200                 205

cca aac tct atg tct cct gct cat agc aac atg gac ctg cag cct gtc      672
Pro Asn Ser Met Ser Pro Ala His Ser Asn Met Asp Leu Gln Pro Val
    210                 215                 220

aca tac tgc gag ccg gcc ttt tgg tgt tcc atc tcc tac tat gag ctt      720
Thr Tyr Cys Glu Pro Ala Phe Trp Cys Ser Ile Ser Tyr Tyr Glu Leu
225                 230                 235                 240

aac caa cgc gta ggg gag acg ttc cac gct tcc cag ccc tcc atg aca      768
Asn Gln Arg Val Gly Glu Thr Phe His Ala Ser Gln Pro Ser Met Thr
                245                 250                 255

gtg gat gga ttc acc gat cct tcc aac tct gaa cgt ttc tgc ctg ggg      816
Val Asp Gly Phe Thr Asp Pro Ser Asn Ser Glu Arg Phe Cys Leu Gly
            260                 265                 270

ctg ttg tcc aac gta aat cgg aat gca gct gtg gag ctg aca cgg aga      864
Leu Leu Ser Asn Val Asn Arg Asn Ala Ala Val Glu Leu Thr Arg Arg
        275                 280                 285

cac atc ggg aga ggc gtg cgg ctg tat tac att gga ggg gaa gtg ttt      912
His Ile Gly Arg Gly Val Arg Leu Tyr Tyr Ile Gly Gly Glu Val Phe
    290                 295                 300

gcc gag tgc ctc agt gac aat gcc ata ttt gta cag tcc cca aat tgt      960
Ala Glu Cys Leu Ser Asp Asn Ala Ile Phe Val Gln Ser Pro Asn Cys
305                 310                 315                 320

aac cag cgc tac ggt tgg cat cct gcc aca gtc tgc aag att cca cca     1008
Asn Gln Arg Tyr Gly Trp His Pro Ala Thr Val Cys Lys Ile Pro Pro
                325                 330                 335

ggc tgt aac ctg aag ata ttt aat aac cag gag ttt gct gct ctt ttg     1056
Gly Cys Asn Leu Lys Ile Phe Asn Asn Gln Glu Phe Ala Ala Leu Leu
```

```
            340                 345                 350

gct cag tca gta aac cag ggc ttt gag gct gtg tat cag ctt acg agg     1104
Ala Gln Ser Val Asn Gln Gly Phe Glu Ala Val Tyr Gln Leu Thr Arg
        355                 360                 365

atg tgc acc ata cgc atg agt ttc gtc aaa ggc tgg gga gcc gaa tac     1152
Met Cys Thr Ile Arg Met Ser Phe Val Lys Gly Trp Gly Ala Glu Tyr
    370                 375                 380

agg cga cag act gtg act agc acc ccc tgc tgg atc gag ctg cac ttg     1200
Arg Arg Gln Thr Val Thr Ser Thr Pro Cys Trp Ile Glu Leu His Leu
385                 390                 395                 400

aac ggg ccc ttg caa tgg ttg gat aag gtt ctc act cag atg ggg tct     1248
Asn Gly Pro Leu Gln Trp Leu Asp Lys Val Leu Thr Gln Met Gly Ser
                405                 410                 415

cca agt atc cgc tgc tcc agt gtt tct taa                             1278
Pro Ser Ile Arg Cys Ser Ser Val Ser  *
            420                 425

<210> 55
<211> 425
<212> PRT
<213> Xenopus laevis

<400> 55
Met Ser Ser Ile Leu Pro Phe Thr Pro Pro Ile Val Lys Arg Leu Leu
 1               5                  10                  15
Gly Trp Lys Lys Gly Glu Gln Asn Gly Gln Glu Glu Lys Trp Cys Glu
            20                  25                  30
Lys Ala Val Lys Ser Leu Val Lys Lys Leu Lys Lys Ser Gly Gln Leu
        35                  40                  45
Asp Glu Leu Glu Lys Ala Leu Thr Thr Gln Ser Ile Ser Thr Lys Cys
    50                  55                  60
Ile Thr Ile Pro Arg Ser Leu Asp Gly Arg Leu Gln Val Ser His Arg
65                  70                  75                  80
Lys Gly Leu Pro His Val Ile Tyr Cys Arg Leu Trp Arg Trp Pro Asp
                85                  90                  95
Leu His Ser His His Glu Leu Arg Ala Met Glu Val Cys Glu Tyr Ala
            100                 105                 110
Phe Ser Met Lys Lys Asp Glu Val Cys Val Asn Pro Tyr His Tyr Gln
        115                 120                 125
Arg Val Glu Thr Pro Val Leu Pro Pro Val Leu Val Pro Arg Asn Thr
    130                 135                 140
Glu Ile Pro Ala Glu Phe Pro Ser Leu Asp Asp Tyr Ser His Ser Ile
145                 150                 155                 160
Pro Glu Asn Thr Asn Phe Pro Ala Gly Ile Glu Pro Gln Ile Asn Tyr
                165                 170                 175
Ile Pro Glu Thr Pro Pro Pro Gly Tyr Leu Ser Glu Asp Gly Glu Thr
            180                 185                 190
Ser Asp Gln Met Asn His Ser Ile Asp Thr Gly Ser Pro Asn Leu Ser
        195                 200                 205
Pro Asn Ser Met Ser Pro Ala His Ser Asn Met Asp Leu Gln Pro Val
    210                 215                 220
Thr Tyr Cys Glu Pro Ala Phe Trp Cys Ser Ile Ser Tyr Tyr Glu Leu
```

225 230 235 240
Asn Gln Arg Val Gly Glu Thr Phe His Ala Ser Gln Pro Ser Met Thr
245 250 255
Val Asp Gly Phe Thr Asp Pro Ser Asn Ser Glu Arg Phe Cys Leu Gly
260 265 270
Leu Leu Ser Asn Val Asn Arg Asn Ala Ala Val Glu Leu Thr Arg Arg
275 280 285
His Ile Gly Arg Gly Val Arg Leu Tyr Tyr Ile Gly Gly Glu Val Phe
290 295 300
Ala Glu Cys Leu Ser Asp Asn Ala Ile Phe Val Gln Ser Pro Asn Cys
305 310 315 320
Asn Gln Arg Tyr Gly Trp His Pro Ala Thr Val Cys Lys Ile Pro Pro
325 330 335
Gly Cys Asn Leu Lys Ile Phe Asn Asn Gln Glu Phe Ala Ala Leu Leu
340 345 350
Ala Gln Ser Val Asn Gln Gly Phe Glu Ala Val Tyr Gln Leu Thr Arg
355 360 365
Met Cys Thr Ile Arg Met Ser Phe Val Lys Gly Trp Gly Ala Glu Tyr
370 375 380
Arg Arg Gln Thr Val Thr Ser Thr Pro Cys Trp Ile Glu Leu His Leu
385 390 395 400
Asn Gly Pro Leu Gln Trp Leu Asp Lys Val Leu Thr Gln Met Gly Ser
405 410 415
Pro Ser Ile Arg Cys Ser Ser Val Ser
420 425

<210> 56
<211> 424
<212> PRT
<213> Homo sapiens

<400> 56
Met Ser Ser Ile Leu Pro Phe Thr Pro Pro Ile Val Lys Arg Leu Leu
1 5 10 15
Gly Trp Lys Lys Gly Glu Gln Asn Gly Gln Glu Glu Lys Trp Cys Glu
20 25 30
Lys Ala Val Lys Ser Leu Val Lys Lys Leu Lys Lys Thr Gly Gln Leu
35 40 45
Asp Glu Leu Glu Lys Ala Ile Thr Thr Gln Asn Val Asn Thr Lys Cys
50 55 60
Ile Thr Ile Pro Arg Ser Leu Asp Gly Arg Leu Gln Val Ser His Arg
65 70 75 80
Lys Gly Leu Pro His Val Ile Tyr Cys Pro Val Arg Trp Pro Asp Leu
85 90 95
His Ser His His Glu Leu Arg Ala Met Glu Leu Cys Glu Phe Ala Phe
100 105 110
Asn Met Lys Lys Asp Glu Val Cys Val Asn Pro Tyr His Tyr Gln Arg
115 120 125
Val Glu Thr Pro Val Leu Pro Pro Val Leu Val Pro Arg His Thr Glu
130 135 140
Ile Pro Ala Glu Phe Pro Pro Leu Asp Asp Tyr Ser His Ser Ile Pro
145 150 155 160
Glu Asn Thr Asn Phe Pro Ala Gly Ile Glu Pro Gln Ser Asn Ile Pro
165 170 175
Glu Thr Pro Pro Pro Gly Tyr Leu Ser Glu Asp Gly Glu Thr Ser Asp
180 185 190
His Gln Met Asn His Ser Met Asp Ala Gly Ser Pro Asn Leu Ser Pro

```
        195                 200                 205
Asn Pro Met Ser Pro Ala His Asn Asn Leu Asp Leu Gln Pro Val Thr
    210                 215                 220
Tyr Cys Glu Pro Ala Phe Trp Cys Ser Ile Ser Tyr Tyr Glu Leu Asn
225                 230                 235                 240
Gln Arg Val Gly Glu Thr Phe His Ala Ser Gln Pro Ser Met Thr Val
                245                 250                 255
Asp Gly Phe Thr Asp Pro Ser Asn Ser Glu Arg Phe Cys Leu Gly Leu
            260                 265                 270
Leu Ser Asn Val Asn Arg Asn Ala Ala Val Glu Leu Thr Arg Arg His
        275                 280                 285
Ile Gly Arg Gly Val Arg Leu Tyr Tyr Ile Gly Gly Glu Val Phe Ala
    290                 295                 300
Glu Cys Leu Ser Asp Ser Ala Ile Phe Val Gln Ser Pro Asn Cys Asn
305                 310                 315                 320
Gln Arg Tyr Gly Trp His Pro Ala Thr Val Cys Lys Ile Pro Pro Gly
                325                 330                 335
Cys Asn Leu Lys Ile Phe Asn Asn Gln Glu Phe Ala Ala Leu Leu Ala
            340                 345                 350
Gln Ser Val Asn Gln Gly Phe Glu Ala Val Tyr Gln Leu Thr Arg Met
        355                 360                 365
Cys Thr Ile Arg Met Ser Phe Val Lys Gly Trp Gly Ala Glu Tyr Arg
    370                 375                 380
Arg Gln Thr Val Thr Ser Thr Pro Cys Trp Ile Glu Leu His Leu Asn
385                 390                 395                 400
Gly Pro Leu Gln Trp Leu Asp Lys Val Leu Thr Gln Met Gly Ser Pro
                405                 410                 415
Ser Ile Arg Cys Ser Ser Val Ser
            420
```

<210> 57
<211> 472
<212> PRT
<213> Xenopus laevis

<400> 57

```
Met Ala Gly Ser Met Ser Ser Ile Leu Pro Phe Thr Pro Pro Val Val
 1                5                  10                  15
Lys Arg Leu Leu Gly Trp Lys Lys Ser Ala Ser Gly Ser Gly Thr Thr
            20                  25                  30
Gly Ala Gly Gly Asp Glu Gln Asn Gly Gln Glu Glu Lys Trp Cys Glu
        35                  40                  45
Lys Ala Val Lys Ser Leu Val Lys Lys Leu Lys Lys Thr Gly Gln Leu
    50                  55                  60
Asp Glu Leu Glu Lys Ala Ile Thr Thr Gln Asn Cys Asn Thr Lys Cys
65                  70                  75                  80
Val Thr Ile Pro Ser Thr Cys Ser Glu Ile Trp Gly Leu Ser Thr Ala
                85                  90                  95
Asn Thr Ile Asp Gln Trp Asp Thr Thr Gly Leu Tyr Ser Phe Ser Glu
            100                 105                 110
Gln Thr Arg Ser Leu Asp Gly Arg Leu Gln Val Ser His Arg Lys Gly
        115                 120                 125
Leu Pro His Val Ile Tyr Cys Arg Leu Trp Arg Trp Pro Asp Leu His
    130                 135                 140
Ser His His Glu Leu Lys Ala Ile Glu Asn Cys Glu Tyr Ala Phe Asn
145                 150                 155                 160
Leu Lys Lys Asp Glu Val Cys Val Asn Pro Tyr His Tyr Gln Arg Val
```

```
                165                 170                 175
Glu Thr Pro Val Leu Pro Pro Val Leu Val Pro Arg His Thr Glu Ile
            180                 185                 190
Leu Thr Glu Leu Pro Pro Leu Asp Asp Tyr Thr His Ser Ile Pro Glu
        195                 200                 205
Asn Thr Asn Phe Pro Ala Gly Ile Glu Pro Gln Ser Asn Tyr Ile Pro
    210                 215                 220
Glu Thr Pro Pro Pro Gly Tyr Ile Ser Glu Asp Gly Glu Thr Ser Asp
225                 230                 235                 240
Gln Gln Leu Asn Gln Ser Met Asp Thr Gly Ser Pro Ala Glu Leu Ser
                245                 250                 255
Pro Ser Thr Leu Ser Pro Val Asn His Leu Asp Leu Gln Pro Val Thr
            260                 265                 270
Tyr Ser Glu Pro Ala Phe Trp Cys Ser Ile Ala Tyr Tyr Glu Leu Asn
        275                 280                 285
Gln Arg Val Gly Glu Thr Phe His Ala Ser Gln Pro Ser Leu Thr Val
    290                 295                 300
Asp Gly Phe Thr Asp Pro Ser Asn Ser Glu Arg Phe Cys Leu Gly Leu
305                 310                 315                 320
Leu Ser Asn Val Asn Arg Asn Ala Thr Val Glu Met Thr Arg Arg His
                325                 330                 335
Ile Gly Arg Gly Val Arg Leu Tyr Tyr Ile Gly Gly Glu Val Phe Ala
            340                 345                 350
Glu Cys Leu Ser Asp Ser Ala Ile Phe Val Gln Ser Pro Asn Cys Asn
        355                 360                 365
Gln Arg Tyr Gly Trp His Pro Ala Thr Val Cys Lys Ile Pro Pro Gly
    370                 375                 380
Cys Asn Leu Lys Ile Phe Asn Asn Gln Glu Phe Ala Ala Leu Leu Ala
385                 390                 395                 400
Gln Ser Val Asn Gln Gly Phe Glu Ala Val Tyr Gln Leu Thr Arg Met
                405                 410                 415
Cys Thr Ile Arg Met Ser Phe Val Lys Gly Trp Gly Ala Glu Tyr Arg
            420                 425                 430
Arg Gln Thr Val Thr Ser Thr Pro Cys Trp Ile Glu Leu His Leu Asn
        435                 440                 445
Gly Pro Leu Gln Trp Leu Asp Lys Val Leu Thr Gln Met Gly Ser Pro
    450                 455                 460
Ser Val Arg Cys Ser Ser Met Ser
465                 470
```

<210> 58
<211> 467
<212> PRT
<213> Homo sapiens

<400> 58

```
Met Ser Ser Ile Leu Pro Phe Thr Pro Pro Val Val Lys Arg Leu Leu
 1               5                  10                  15
Gly Trp Lys Lys Ser Ala Gly Gly Ser Gly Gly Ala Gly Gly Gly Glu
            20                  25                  30
Gln Asn Gly Gln Glu Glu Lys Trp Cys Glu Lys Ala Val Lys Ser Leu
        35                  40                  45
Val Lys Lys Leu Lys Lys Thr Gly Arg Leu Asp Glu Leu Glu Lys Ala
    50                  55                  60
Ile Thr Thr Gln Asn Cys Asn Thr Lys Cys Val Thr Ile Pro Ser Thr
65                  70                  75                  80
Cys Ser Glu Ile Trp Gly Leu Ser Thr Pro Asn Thr Ile Asp Gln Trp
```

```
                85                  90                  95
Asp Thr Thr Gly Leu Tyr Ser Phe Ser Glu Gln Thr Arg Ser Leu Asp
            100                 105                 110
Gly Arg Leu Gln Val Ser His Arg Lys Gly Leu Pro His Val Ile Tyr
        115                 120                 125
Cys Arg Leu Trp Arg Trp Pro Asp Leu His Ser His His Glu Leu Lys
    130                 135                 140
Ala Ile Glu Asn Cys Glu Tyr Ala Phe Asn Leu Lys Lys Asp Glu Val
145                 150                 155                 160
Cys Val Asn Pro Tyr His Tyr Gln Arg Val Glu Thr Pro Val Leu Pro
                165                 170                 175
Pro Val Leu Val Pro Arg His Thr Glu Ile Leu Thr Glu Leu Pro Pro
            180                 185                 190
Leu Asp Asp Tyr Thr His Ser Ile Pro Glu Asn Thr Asn Phe Pro Ala
        195                 200                 205
Gly Ile Glu Pro Gln Ser Asn Tyr Ile Pro Glu Thr Pro Pro Pro Gly
    210                 215                 220
Tyr Ile Ser Glu Asp Gly Glu Thr Ser Asp Gln Gln Leu Asn Gln Ser
225                 230                 235                 240
Met Asp Thr Gly Ser Pro Ala Glu Leu Ser Pro Thr Thr Leu Ser Pro
                245                 250                 255
Val Asn His Ser Leu Asp Leu Gln Pro Val Thr Tyr Ser Glu Pro Ala
            260                 265                 270
Phe Trp Cys Ser Ile Ala Tyr Tyr Glu Leu Asn Gln Arg Val Gly Glu
        275                 280                 285
Thr Phe His Ala Ser Gln Pro Ser Leu Thr Val Asp Gly Phe Thr Asp
    290                 295                 300
Pro Ser Asn Ser Glu Arg Phe Cys Leu Gly Leu Leu Ser Asn Val Asn
305                 310                 315                 320
Arg Asn Ala Thr Val Glu Met Thr Arg Arg His Ile Gly Arg Gly Val
                325                 330                 335
Arg Leu Tyr Tyr Ile Gly Gly Glu Val Phe Ala Glu Cys Leu Ser Asp
            340                 345                 350
Ser Ala Ile Phe Val Gln Ser Pro Asn Cys Asn Gln Arg Tyr Gly Trp
        355                 360                 365
His Pro Ala Thr Val Cys Lys Ile Pro Pro Gly Cys Asn Leu Lys Ile
    370                 375                 380
Phe Asn Asn Gln Glu Phe Ala Ala Leu Leu Ala Gln Ser Val Asn Gln
385                 390                 395                 400
Gly Phe Glu Ala Val Tyr Gln Leu Thr Arg Met Cys Thr Ile Arg Met
                405                 410                 415
Ser Phe Val Lys Gly Trp Gly Ala Glu Tyr Arg Arg Gln Thr Val Thr
            420                 425                 430
Ser Thr Pro Cys Trp Ile Glu Leu His Leu Asn Gly Pro Leu Gln Trp
        435                 440                 445
Leu Asp Lys Val Leu Thr Gln Met Gly Ser Pro Ser Val Arg Cys Ser
    450                 455                 460
Ser Met Ser
465
```

<210> 59
<211> 25
<212> PRT
<213> Xenopus laevis

<400> 59
Gln Pro Met Leu Met Asn Ser Phe Gln Thr Asn Lys Asn Ile Lys Pro

1 5 10 15
Glu Val Tyr Thr Thr Ser Pro Gln Ile
20 25

<210> 60
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 60
Glu Phe Met Pro Met Glu
1 5

<210> 61
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Similar to half brachyvry binding site

<400> 61
aggtgtgaaa tt 12

<210> 62
<211> 10
<212> DNA
<213> Artificial Sequence

<220>
<223> Similar to ZFH-1 binding sequence

<400> 62
aggtgagcaa 10

<210> 63
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 63
Ser Lys Pro Thr Thr Lys Gln Arg Gln Asn Lys Pro Pro Asn Lys Pro
1 5 10